In the Claims:

1.　　(Currently amended)　An apparatus for managing storage access, comprising:

a disk system~~, comprising:~~

~~at least one of a plurality of logical device storage units;~~

~~at least one of a plurality of interface ports; and~~

~~a control unit, connected to, and operable to control input and output to and from said at least one of a plurality of logical device storage units through said at least one of a plurality of interface ports;~~

a disk system manager, operative to manage information storage ~~to,~~ to and retrieval from~~, allocation of, and de-allocation of~~ said disk system ~~at least one of a plurality of logical device storage units~~; and

a ~~storage access service system, comprising a memory operative to contain a plurality of user information, said user information including a time based component, said~~ storage access service system operative to grant authorization to access said disk system ~~at least one of a plurality of logical device storage units~~ based upon a time component ~~said user information~~.

2.　　(Currently amended)　The apparatus of claim 1, wherein said time ~~based~~ component further comprises time zone information, ~~said user information further comprises at least one of a plurality of billing rates corresponding to said time zone information~~, and wherein said storage access service system determines charges for user access service based upon said time component ~~zone information, said at least one of a plurality of billing rates,~~ and ~~an~~ access time ~~for said at least one of a plurality of users~~.

3.　　(Currently amended)　The apparatus of claim 2, wherein said storage access service system determines charges for user access based upon ~~said user information further comprises~~ a history of accesses ~~for said at least one of a plurality of users, and wherein~~

~~storage access service system determines charges for user access service based upon said history~~ ~~of accesses for said at least one of a plurality of users.~~

4.   (Currently amended) The apparatus of claim 3, wherein said ~~at least one~~ ~~of a plurality of billing rates corresponds to selected ones of a plurality of time periods for each~~ ~~of individual instances of said time zone information, and wherein said~~ storage access service system determines charges ~~for user access service based upon said history of accesses for said at~~ ~~least one of a plurality of users~~ by comparing ~~individual instances selected from~~ said history of accesses to <u>a billing rate schedule</u> ~~said selected ones of said plurality of time periods to~~ ~~determine applicable billing rates from among said at least one of a plurality of billing rates,~~ and thereupon computing a cost of access by summing a cost for each <u>access according to said billing</u> <u>rate schedule</u> ~~of said individual instances selected from said history of accesses multiplied by~~ ~~said applicable billing rates.~~

5.   (Currently amended) The apparatus of claim 4, wherein said ~~at least one~~ ~~of a plurality of~~ billing <u>rate schedule is</u> ~~rates are~~ determined from a service level agreement (SLA).

6.   (Currently amended) The apparatus of claim 2, wherein ~~said at least one~~ ~~of a plurality of billing rates corresponds to selected ones of a plurality of time periods for each~~ ~~of individual instances of said time zone information; and wherein said at least one of a plurality~~ ~~of~~ users <u>agree</u> ~~agrees~~ to access said at least one ~~of a plurality of logical device~~ storage <u>unit during</u> ~~units at individual instances of said plurality of time periods in accordance with~~ a preset schedule, and wherein said storage access service system determines charges for user access service based upon said ~~at least one of a plurality of billing rates for said plurality of time periods~~ ~~in said~~ preset schedule ~~for said at least one of a plurality of users.~~

7.   (Currently amended) The apparatus of claim 6, wherein said storage access service system determines charges for user access ~~service for said at least one of a~~ ~~plurality of users~~ by comparing ~~individual instances of said plurality of time periods in~~

accordance with said preset schedule to a billing rate schedule said selected ones of said plurality of time periods to determine applicable billing rates from among said at least one of a plurality of billing rates, and thereupon computing a cost of access by summing a cost for each of said individual instances of said plurality of time periods in accordance with said preset schedule multiplied by said applicable billing rate.

8.   (Currently amended) The apparatus of claim 7, wherein said at least one of a plurality of billing rate schedule is rates are determined from a service level agreement (SLA).

9.   (Currently amended) The apparatus of claim 6, wherein said storage access service system determines charges for user access service for said at least one of a plurality of users by comparing individual instances of said plurality of time periods in accordance with said preset schedule to a billing rate schedule said selected ones of said plurality of time periods to determine an applicable billing rate rates from among said plurality of billing rates, and thereupon computing a cost of access by multiplying said applicable billing rate by a number of instances of said plurality of time periods in accordance with said preset schedule in a billing cycle.

10.   (Currently amended) The apparatus of claim 9, wherein said plurality of billing rate schedule is rates are determined from a service level agreement (SLA).

11.   (Currently amended) A method for managing access to storage resources in a system having a plurality of tables, comprising:
        storing forming an agreement between access providers and users, said agreement comprising user information including an identity of a user; an identity of a resource, a time zone, and at least one of a plurality of billing rate rates for accessing said resource in a first table of the plurality of tables;
        receiving a computer-based request to access said resource from a user;

granting access to said resource based upon said identity of said user, said identity of said resource, and said time zone <u>using the first table</u>;

<u>storing access information including said identity of said user, said identity of said resource, and said time zone in a second table of said plurality of tables;</u> and

determining charges for accessing said resource based upon said identity of said user, said identity of said resource, and said at least one ~~of a plurality of~~ billing <u>rate</u> ~~rates~~ <u>using the first table and the second table</u>.

12. (Currently amended) The method of claim 11, further comprising:

logging individual instances of access to said resource into a history of accesses <u>in said second table</u>.

13. (Currently amended) The method of claim 12, wherein determining charges for a user based upon individual instances of access by said user of said resource, said time zone, and said at least one ~~of a plurality of~~ billing <u>rate</u> ~~rates~~ comprises:

determining a usage time for each individual instance of access selected from said history of accesses;

determining a billing rate corresponding to said usage time from among said at least one ~~of a plurality of~~ billing <u>rate</u> ~~rates~~; and

computing a cost by summing a cost for each individual instance of access selected from said history of accesses, said cost computed by multiplying said usage time by said billing rate corresponding to said usage time.

14. (Currently amended) The method of claim 13, wherein said at least one ~~of a plurality of~~ billing <u>rate</u> ~~rates~~ corresponds to at least one of a plurality of time periods for said time zone, and wherein determining a billing rate corresponding to said usage time from among said at least one ~~of a plurality of~~ billing <u>rate</u> ~~rates~~ comprises:

comparing said individual instances of accesses logged into said history of accesses to said plurality of time periods to select a billing rate corresponding to said usage time from among said <u>at least one</u> ~~plurality of~~ billing <u>rate</u> ~~rates~~.

15. (Original) The method of claim 11, wherein said user agrees to access said resource at a time period in accordance with a preset schedule; and wherein said granting access to said resource based upon said identity of said user, said identity of said resource, and said time zone comprises:

granting said user access to said resource within said time period in accordance with said preset schedule.

16. (Currently amended) The method of claim 15, wherein said at least one ~~of a plurality of~~ billing rate ~~rates~~ for accessing said resource corresponds to at least one of a plurality of time periods for said time zone, and wherein determining charges for accessing said resource based upon said identity of said user, said identity of said resource, said at least one ~~of a plurality of~~ billing rate ~~rates~~, and said time period comprises:

selecting from among a ~~said~~ plurality of billing rates a billing rate corresponding to said time period in accordance with said preset schedule; and

computing a cost of access by summing a cost for each individual instance of said time period in accordance with said preset schedule multiplied by said billing rate corresponding to said time period in accordance with said preset schedule.

17. (Currently amended) The method of claim 15, wherein said at least one ~~of a plurality of~~ billing rate ~~rates~~ for accessing said resource corresponds to at least one of a plurality of time periods for said time zone, and wherein determining charges for accessing said resource based upon said identity of said user, said identity of said resource, said at least one ~~of a plurality of~~ billing rate ~~rates~~, and said time period comprises:

selecting from among a ~~said~~ plurality of billing rates a billing rate corresponding to said time period in accordance with said preset schedule; and

computing a cost of access by multiplying said billing rate corresponding to said time period by a number of instances of said time period occurring in a billing cycle in said preset schedule.

18. (Currently amended) A method for charging users for storage access in a disk subsystem <u>having a plurality of tables</u>, said method comprising:

determining based upon a time zone of a location of a user at least one of a plurality of permitted access times, and at least one of a plurality of access rates, said access rates corresponding to said permitted access times;

storing ~~contracting with said user to provide storage access based upon a capacity,~~ said at least one of a plurality of permitted access times, and said at least one of a plurality of access rates, said access rates corresponding to said permitted access times <u>in a first table of the plurality of tables</u>;

<u>receiving a computer-based request to access said resource from a user;</u>

<u>using the first table to enable the user to access the disk subsystem only during the at least one of a plurality of permitted access times;</u>

<u>automatically</u> tracking time periods when said user accesses storage in said disk system <u>and storing said accesses in a second table</u>;

<u>using said first table and said second table to determine</u> ~~determining~~ for said time periods charges to said user for access, said charge based upon said time zone of a location of said user, said at least one of a plurality of permitted access times, and said at least one of a plurality of access rates; and

determining a total cost from said charges to said users for access.

19. (Currently amended) A method for charging users for storage access in a disk subsystem <u>having a plurality of tables</u>, said method comprising:

determining based upon a time zone of a location of a user at least one of a plurality of permitted access times, and at least one of a plurality of access rates, said access rates corresponding to said permitted access times;

storing ~~contracting with said user to provide storage access based upon a capacity,~~ said at least one of a plurality of permitted access times, and said at least one of a plurality of access rates, said access rates corresponding to said permitted access times <u>in a first table</u>;

<u>receiving a computer-based request to access said resource from a user;</u>

<u>using the first table to enable the user to access the disk subsystem only during the</u> <u>at least one of a plurality of permitted access times;</u>

<u>using the first table and the second table to determine</u> ~~determining~~ for said permitted access times, charges to said user for access, said charge based upon said time zone of a location of said user, said at least one of a plurality of permitted access times, and said at least one of a plurality of access rates; and

determining a total cost from said charges to said users for access.